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| 09/851,732 | 05/08/2001 | Timothy M. Dubois | ORCL-0010801 | 3656 |

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| EXAMINER | |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/851,732 | DUBOIS ET AL. | |
| | Examiner | Art Unit | |
| | Jonathan G. Sterrett | 3623 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *15 October 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10-15-07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Summary*

1. This **Final Office Action** is responsive to applicant's amendment filed 15 October 2007. Currently **Claims 1-20** are pending. The response to the 1.105 Request for Information is noted.

### *Response to Arguments*

2. The applicant's arguments have been fully considered but are not persuasive

3. The applicant argues with respect to Claim 1 on page that the cited reference fails to teach in response to a user request to a website allowing the user to select a performance measure to be analyzed for a data set in enterprise wide business data; and in response to the request, performing a statistical analysis of the performance data.

The examiner respectfully disagrees.

In page 7 column 2 para 4, Cognos teaches that the reports that can generated from business data are customizable (i.e. as in fully customizable, meaning that the content of the report is totally specified by the user). As noted in the Office Action, while Cognos does not teach where the analysis is statistical in nature (although Cognos does teach providing trendlines and average calculations), this limitation is taught by Cawse, which teaches a full range of statistical calculations that can be provided (see column 9 line 9-12 and further see Figure 11 where system variability based on process

data are calculated). The rejection notes that Cognos does not teach a website, however official notice was taken that it is old and well known in the art to use a browser and a website to access a data warehousing application as taught by Cognos. The applicants have attempted to traverse this official notice by reciting claim limitations that go beyond what the official notice was taken for. Thus the traversal does not establish on its face, that the subject of the Official Notice is not old and well known in the art. Nonetheless, the examiner points the applicant to this reference, which shows the application of a browser and a website to access a data warehousing application.

SAS partners on workgroup software

Rogoski, Richard R. Triangle Business Journal. Raleigh: Oct 22, 1999. Vol. 15, Iss. 7; pg. 31

4. The applicant argues with respect to Claims 2, 3 and 4 to traverse the official notice regarding it being old and well known in the art to provide HTML documents using a client/server/browser architecture.

The support for this official notice is found here:

The domino theory

Steve Gillmor, Jeff Angus. InformationWeek. Manhasset: Nov 23, 1998. , Iss. 710; pg. 48, 5 pgs.

5. The applicant argues with respect to Claim 5 on page 14 that Cawse does not teach the claimed limitations of running a simulation to determine the effect of varying a user specified statistical parameter has on another statistical parameter. The applicant further assert that Cawse does not teach presenting the results of the simulation to the user, where the user is presented a graphical display providing information to assist in quality improvement.

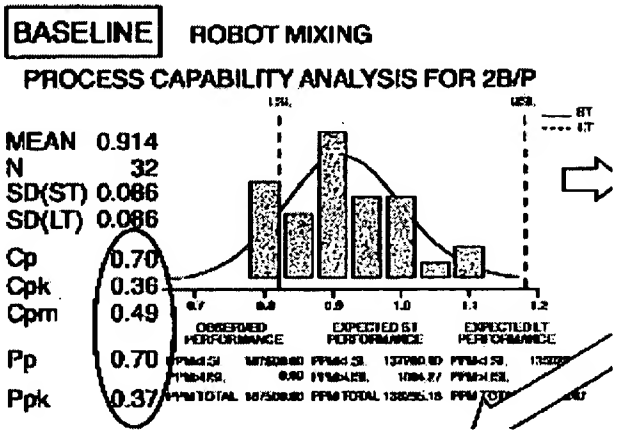
The examiner respectfully disagrees.

The DOE (design of experiments) is a simulation that provides the impact of varying one parameter on another parameter. The examiner would respectfully point out to the applicant that a design of experiments is more a computationally complex exercise than what is disclosed by the applicant in the specification, which merely deals with varying one parameter on a control chart (Figure 3) and seeing how the other parameters change.

As far as providing a graphical display to the user, Cawse shows a graphical display in Figure 14 to assist in quality improvement. The examiner notes that the claim limitation "to assist in quality improvement" is intended use and does not further limit the claim.

6. The applicant argues with respect to Claim 6 on page 15 that Cawse fails to teach a plurality of statistical parameters comprising statistical mean, standard deviation, a user specified target, actual percentage of data above and below the specified target and sigma value.

The examiner respectfully disagrees.




This excerpt from Figure 14 of Cawse shows a Mean (-0.914), standard deviation (0.086), a USL and LSL (dotted vertical lines on chart) – a user specified target since they represent an upper and lower specification limit, CPK (0.36) – a sigma value, and PPM<LSL and PPM>USL which represents a percentage of data above and below the user specified limit (i.e. the USL and LSL – see small print under the chart above and small print under other similar chart in Figure 14.

7. The applicant argues with respect to Claim 7 on page 15 that Cognos does not teach providing a trendline in response to a user request.

The examiner respectfully disagrees.

Cognos teaches a data warehouse that allows users to specify the sort of information they want retrieved. Cognos teaches providing some standard and some customized reports. However, any information that is presented from Cognos' data warehouse reporting occurs in response to a user request – i.e. the user must interact

with the system even if to just access standard reports. Any reporting, standard or customized, is in response to a user requesting either the standard or custom report.

8. The applicant argues with respect to Claim 7 on page 15 to traverse the official notice regarding the user of a client/server/browser approach which provides webpages. Support for the Official Notice is provided here:

The domino theory

Steve Gillmor, Jeff Angus. InformationWeek. Manhasset: Nov 23, 1998. , Iss. 710; pg. 48, 5 pgs.

9. The applicant argues with respect to Claim 7 on page 16 that the cited references fail to teach a trend.

The examiner respectfully disagrees.

Cognos teaches providing a trend (page 13 column 2 para 2) of sales data. Cawse teaches a day to day drift of data. A day to day drift of data is a trend, according to a broadest reasonable interpretation of the term trend, since the day to day movement of the data is a trend aware from having a statistically robust process (i.e. excessive variability).

10. The applicants argue with respect to claim 11 on page 17 that Cognos fails to teach data from across the enterprise, in addition to the arguments presented above for claims 1-8.

The examiner respectfully disagrees.

On page 1 column 2 para 4, Cognos teaches data coming from across the enterprise (i.e. "back office ERP systems" – ERP means enterprise resource planning, i.e. data across the enterprise.

11. The applicants traverse the official notice taken in Claim 12 regarding providing an html document using a client/server/browser approach. Support for this official notice is found here:

The domino theory
Steve Gillmor, Jeff Angus. InformationWeek. Manhasset: Nov 23, 1998. , Iss. 710; pg. 48, 5 pgs.

12. The applicants argue with respect to Claim 15 on page 19 that Cognos does not teach the user-selected performance measure for the data set.

The examiner respectfully disagrees.

Cognos teaches that the user can customize a report (page 11 column 1 para 3) to select which parameters they want to obtain a report on. This meets the claim limitations of a user-selected performance measure for the data set. Also the applicant

is referred to page 1 last para and page 2 column 1 para 1 – how would a user answer these specific questions without being able to specify which data parameters to select to generate a report. The end-user navigation discussed in page 2 column 2 para 2 to obtain specific data (i.e. user selected performance measures) is a specific need the data warehousing and reporting approach by Cognos addresses – see also page 4 column 1 para 1.

13. The applicant argues on page 19 and 20 with respect to Claim 16, that Cognos does not teach collecting data from a plurality of databases.

The examiner respectfully disagrees.

On page 3 column 2 para 3 and 4, Cognos teaches an integrated data warehouse (i.e. a single database). Cognos teaches that the data for this database comes from a plurality of sources (see page 1 column 2 para 4).

14. The applicant argues on page 21 with respect to Claim 17, that Cognos does teach a standardized presentation of statistical analysis is available to multiple distributed peripheral computer systems.

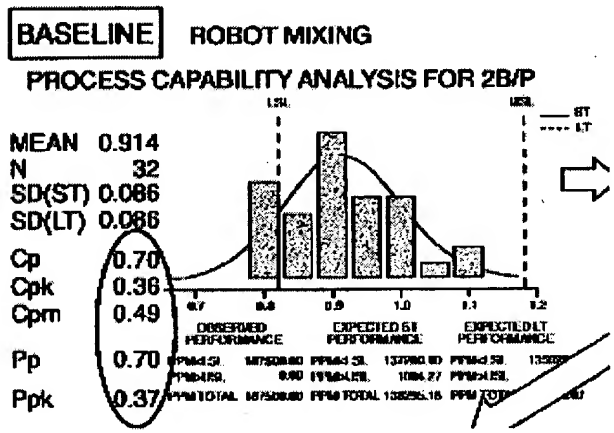
The examiner respectfully disagrees.

On page 17 column 2 para 2, the Cognos reference teaches multiple users contacting the system over a distributed network (i.e. a LAN or working remotely).

15. The applicants argue with respect to Claim 18 on page 21 that the cited reference of Cawse fails to teach formatting the statistical analysis in graphical format where the variance of the data set is graphically viewable.

The examiner respectfully disagrees.

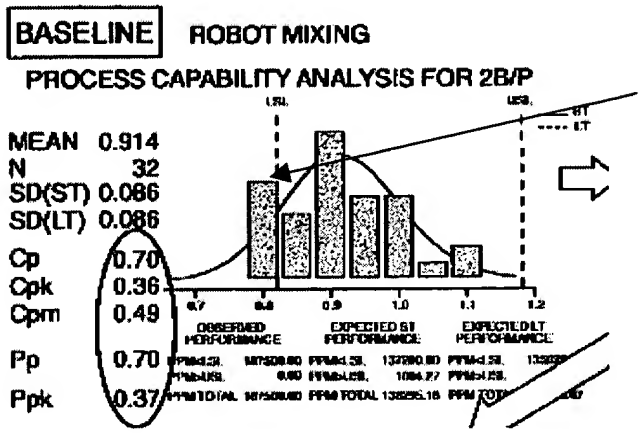
The except from Figure 14 of Cawse above clearly shows where the variance of the data set is graphically viewable in the histogram which shows the spread of the data.




16. The applicant argues with respect to Claim 19 on page 21 that the cited references fail to teach highlighting the data points outside a target range, wherein the relative number of defects are viewable.

The examiner respectfully disagrees.

The excerpt of Figure 14 above is referred to – here a bar chart in a histogram is shown as being outside the LSL (Lower Spec Limit) – this shows the relative area of the histogram (i.e. the relative area outside the USL and LSL – i.e. the relative number of defects) as being viewable.




This histogram outside the USL shows the relative number of defects

17. The applicant argues with respect to Claim 9 that the cited reference of Hsuing (US 6,853,920) does not teach the claim limitations of determining if new data is outside a specified target and notifying the user if the data is outside a target.

The examiner respectfully disagrees.

Hsuing teaches using process data to determine if process parameters are outside where the should be (as per a user specified target in the statistical process parameters). Hsuing's invention is designed to highlight and warn those responsible for the process, for example, if a pump should be failing and causing process parameters to deviate. In this example, a failing pump pushing process parameters outside the specified limits would cause a warning (i.e. a notification) to be sent to the responsible parties (i.e. by a pager or a voicemail as per column 16 line 40-45). The data gathered by Hsuing's invention is process data (i.e. it is statistical in nature because it varies over time.

18. The applicant argues with respect to Claim 10 on page 24 that Cognos fails to teach analyzing the performance measure according to a periodic rate specified by the user.

The examiner respectfully disagrees.

The e-application performance of period end closings is done based on when the user specifies the period (i.e. month end, quarter end or year end). See also page 17 column 1 para 3, the extraction history is a performance measure tracked according to a periodic rate (i.e. start and end date and elapsed time) as specified by the person in IT who wants to track the extraction history.

***Claim Rejections - 35 USC § 112***

19. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

20. **Claim 6** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding **Claim 6**, a number of limitations are claimed that are a "plurality of statistical parameters". These parameters refer back to Claim 5 where the effect of varying these parameters is determined to have on another parameter. Since Claim 6 states "comprising", the parameter that is selected is not required to be on the list, thus

the claim is indefinite. For the purposes of examination, the examiner assumes that **Claim 6** is intended to read "**consisting**" rather than "**comprising**".

### *Claim Rejections - 35 USC § 103*

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

22. **Claims 1-8, 11, 12 and 14-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over the Cognos White Paper, "Constructing the Integrated Data Warehouse with Cognos e-applications", Sept 2000, pp.1-19, (hereinafter **Cognos**) in view of Cawse U.S. Patent 6,725,183 (hereinafter **Cawse)**.

Regarding **Claim 1**, Cognos teaches:

**A method of presenting an analysis of enterprise wide business data, comprising the steps of**:

Page 1 column 2 para 4, Cognos teaches a method for presenting enterprise wide (i.e. from an ERP data source) data analysis (i.e. analytics are several analyses), using a robust analysis and reporting structure for presenting analysis of the ERP, front office (i.e. sales) and e-business sources.

**a) in response to a user request over a network operable to access said enterprise wide business data and to provide analysis of said enterprise wide business data,**

Page 2 column 1 para 3, Cognos e-applications run over users accessing an internet, extranet or the Internet (i.e. thru a website – see also page 17 column 2 para 2, a client-browser application running means that users are accessing a website (i.e. through an extranet, intranet or the Internet, see page 10 column 2 para 4).

.page 7 column 2 para 4, business reports are customizable (i.e. through a user request to a website running the Cognos applications on a network) based on the particular data in the data mart (para 2, e.g. site specific data).

**transferring an electronic application to said user, wherein said electronic application allows said user to select a performance measure to be analyzed for a data set in said enterprise wide business data;**

Page 8, The e-applications of Cognos provide for responses to users requests for various kinds of ERP data analysis, e.g. income statement analysis. These are samples of electronic applications that are transferred to the user.

page 11 column 1 para 4, users can specify which data they want to extract (i.e. a performance measure in a "sales analysis", "financial analysis" or "inventory analysis" schema – the data that is extracted can be used to map a trend (i.e. a trend is a type of analysis showing a trendline in a data set). – since the user can specify a join using the application, this is provided through an electronic application – see the "electronic console" on page 16, column 1 – this is an electronic application.

**b) in response to a request from said user, performing an analysis of said performance measure; and**

page 16 column 1 para 4, the user can set parameters in the e-applications suite (i.e. in response to the user), and based on what the user specified, the e-applications returns the analysis (i.e. business analysis) to the user. – see also page 17 column 1 para 4.

**c) transferring an electronic copy of said statistical analysis to said user.**

page 17 column 1 para 4, the reports (i.e. the analysis) is transferred and presented to the user as a report.

Cognos thus addresses providing a client server system (including a browser) that allows users to specify enterprise data for analyzing. Cognos provides a method operating on a computer system to allow users to customize and obtain data analysis and reports so that they can obtain "key business insight".

Cognos suggest performing lower level computational analysis such as trendlines and performing an average calculation.

Cognos does not teach providing an electronic document (e.g. an HTML page) provided by a website on the network where users can use to access the data warehousing applications, however Official Notice is taken that using a website that utilizes electronic documents to provide client/server/browser applications such as

taught by Cognos is old and well known in the art. Using a website that utilizes electronic documents (e.g. html pages) provides a convenient and easy to use way to access information over a network.

It would have therefore been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Cognos, regarding providing a data warehousing application running over a network (i.e. intranet/extranet/internet), to include the step of accessing the data warehousing application at a website that provides the application using an electronic document, because it would provide a convenient and easy to use way to access the client/server/browser application taught by Cognos.

Cognos does not teach where the analysis is statistical in nature. However, performing statistical analysis based on process data that is business-oriented is taught by **Cawse**.

Cawse teaches performing a statistical analysis method using a web-based computer system (see column 9 line 9-12).

Cawse teaches storing process information in a database (Figure 7 #262 and column 6 line 65) so that the process information can be analyzed (see column 9 line 15-19, Design for Six Sigma techniques are data analysis of business performance,

because the removal of variation in a process removes defects and ultimately cost from a system, i.e. thus is 'business' performance). Cawse notes that his approach (i.e. various DFSS techniques provide for analyzing business performance) can be applied using a computer system with storage devices (column 8 line 55-60).

Although Cawse demonstrates the invention in the context of a chemical process, it is noted (column 1 line 50-53, column 2 line 15-17) that the six sigma techniques are applicable to business processes as well.

Cawse and Cognos both address applying data analysis tools to understand information that is contained in stored data so that the business management can be improved, thus both Cawse and Cognos are analogous art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Cognos, regarding providing a data warehouse that provides for user-specified analysis of business data, to include the step of where the analysis includes a statistical analysis, because the analysis of statistical variation as taught by Cawse, provides for better control and a subsequent improvement to remove defects and cost.

Regarding **Claims 2, 3 and 4**, Cognos does not teach:

**transferring a Hyper-Text Markup Language document comprising said statistical analysis in histogram format**, as per **Claim 2**; and **overlaying on said histogram an indicator of a statistical mean and an indicator of a user specified target limit**, as per **Claim 3**, and **highlighting the area of said histogram outside of said user specified target limit, wherein the relative number of defects are graphically visible**, as per **Claim 4**.

However Official Notice is taken that it is old and well known in the art to provide HTML documents using the client/server/browser architecture taught by Cognos, because HTML is a proven and reliable way to provide electronic documents over the types of networks (intranet/extranet/Internet) taught by Cognos.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Cognos, regarding providing analysis applications using a client/server/browser architecture, to include the step of providing the application using an HTML document with the client/server/browser architecture, because it would provide a proven and reliable way to transmit information and requests over a network.

Cognos teaches providing average calculations (page 8 column 1 para 4) and teaches providing analysis of business processes over a network.

Cawse teaches providing a statistical analysis, as discussed above, and where:

**providing a statistical analysis in histogram format**, as per **Claim 2**; and

Figure 14, upper left hand chart "Process capability analysis for 2B/P" provides a histogram representing a process capability metric.

**overlaying on said histogram an indicator of a statistical mean and an indicator of a user specified target limit**, as **per Claim 3**, and

Figure 14, upper left hand chart "Process capability analysis for 2B/P" provides an indicator of the mean by the superposition of a normal distribution and the vertical bar at the position 0.9 on the x axis. This chart also contains a USL and a LSL (i.e. a user specified target limit, since the user is specifying the upper and lower service limits for the process to be in control.

**highlighting the area of said histogram outside of said user specified target limit, wherein the relative number of defects are graphically visible**, as per **Claim 4**.

Figure 14, upper left hand chart "Process capability analysis for 2B/P", the bar to the left of the LSL highlights the area of the histogram outside the LSL where the size of this bar provides a graphical indicator of the relative number of process observations that are below the LSL (i.e. defects since they are outside the LSL-USL range).

Cawse teaches performing this method using a web-based computer system (see column 9 line 9-12). Cawse notes that his invention can be administered over an internet (i.e. using a server) so that technical personnel working remotely can access

the process information to apply six sigma techniques to the process (column 9 line 9-10).

Cawse teaches storing process information in a database (Figure 7 #262 and column 6 line 65) so that the process information can be analyzed (see column 9 line 15-19, Design for Six Sigma techniques are data analysis of business performance, because the removal of variation in a process removes defects and ultimately cost from a system, i.e. thus is 'business' performance). Cawse notes that his approach can be applied using a computer system with storage devices (column 8 line 55-60).

Although Cawse demonstrates the invention in the context of a chemical process, it is noted (column 1 line 50-53, column 2 line 15-17) that the six sigma techniques are applicable to business processes as well.

Cawse and Cognos both address applying data analysis tools to understand information that is contained in stored data so that the business management can be improved, thus both Cawse and Cognos are analogous art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the teachings of Cognos and Cawse, regarding providing a statistical analysis application using a client/server/browser architecture that utilizes HTML documents to provide an analytical application, to include the steps of **providing**

**said statistical analysis in histogram format**, as per **Claim 2**; and **overlaying on said histogram an indicator of a statistical mean and an indicator of a user specified target limit**, as **per Claim 3**, and **highlighting the area of said histogram outside of said user specified target limit, wherein the relative number of defects are graphically visible**, as per **Claim 4**, because Cawse teaches that applying this approach using the annotated histogram provides for a way to analyze and remove variability from a business process, thus reducing defects and improving customer satisfaction.

There is a reasonable expectation of success to combining the teachings of Cawse into Cognos because using an annotated histogram of process variation highlights areas where a business process metric is not in statistical control. The highlighting of out-of-control processes promotes management's awareness to fix the problems causing the out of control process which then reduces the variation as determined by process metrics – variation means defects and defects mean unhappy customers (see column 1 line 54-67).

Regarding **Claim 5**, Cognos teaches receiving and responding to electronic requests to provide analyses to said user, but does not teach:

**d) in response to an electronic request from said user, running a simulation to determine the effect varying a user specified statistical parameter of a plurality of statistical parameters has on another statistical parameter; and**

**e) electronically transferring the results of said simulation to said user, wherein the user is presented a graphical display providing information to assist in quality improvement.**

Cawse teaches:

**d) in response to an electronic request from said user, running a simulation to determine the effect varying a user specified statistical parameter of a plurality of statistical parameters has on another statistical parameter; and**

column 8 line 10-15, a DOE (design of experiments) is a simulation that is run on a computer to determine the effect of varying inputs (i.e. the various x's) that have on other statistical parameters (i.e. the variability of the process). This is also shown in Figure 14 which shows the effects of varying the statistical parameters of the upper right hand chart has on the lower left hand chart through a DOE.

**e) electronically transferring the results of said simulation to said user, wherein the user is presented a graphical display providing information to assist in quality improvement.**

Column 8 line 20-25 & Figure 16 shows a contour plot that is the results of the DOE (simulation) that shows a graphical display providing information to assist in quality improvement to reduce variability.

Cawse teaches storing process information in a database (Figure 7 #262 and column 6 line 65) so that the process information can be analyzed (see column 9 line 15-19, Design for Six Sigma techniques are data analysis of business performance, because the removal of variation in a process removes defects and ultimately cost from a system, i.e. thus is 'business' performance). Cawse notes that his approach can be applied using a computer system with storage devices (column 8 line 55-60).

Although Cawse demonstrates the invention in the context of a chemical process, it is noted (column 1 line 50-53, column 2 line 15-17) that the six sigma techniques are applicable to business processes as well.

Cawse and Cognos both address applying data analysis tools to understand information that is contained in stored data so that the business management can be improved, thus both Cawse and Cognos are analogous art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the teachings of Cognos and Cawse, regarding providing a statistical analysis application using a client/server/browser architecture that utilizes HTML documents to provide an analytical application, to include the steps of running a simulation to determine the effects of changing statistical parameters that represent process capability, because Cawse teaches that applying a DOE approach provides for

a way to analyze and remove variability from a business process, thus reducing defects and improving customer satisfaction.

Regarding **Claim 6**, Cognos teaches receiving and responding to electronic requests to provide analyses to said user, but does not teach:

**wherein said plurality of statistical parameters comprise statistical mean, standard deviation, a user specified target, actual percentage of data above and below said user specified target, and sigma value**.

Cawse teaches

**wherein said plurality of statistical parameters comprise statistical mean, standard deviation, a user specified target, actual percentage of data above and below said user specified target, and sigma value**

Figure 14 shows a before and after histogram (upper left hand corner and lower right hand corner). This chart shows a plurality of parameters that include a statistical mean (0.914), standard deviation (.086), USL & LSL (user-specified targets for what the process capability should be), CPK (a sigma value indicating process capability), PPM<USL and PPM>LSL are actual percentages of data above and below the user-specified target.

Cawse teaches storing process information in a database (Figure 7 #262 and column 6 line 65) so that the process information can be analyzed (see column 9 line 15-19, Design for Six Sigma techniques are data analysis of business performance,

because the removal of variation in a process removes defects and ultimately cost from a system, i.e. thus is 'business' performance). Cawse notes that his approach can be applied using a computer system with storage devices (column 8 line 55-60).

Although Cawse demonstrates the invention in the context of a chemical process, it is noted (column 1 line 50-53, column 2 line 15-17) that the six sigma techniques are applicable to business processes as well.

Cawse and Cognos both address applying data analysis tools to understand information that is contained in stored data so that the business management can be improved, thus both Cawse and Cognos are analogous art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the teachings of Cognos and Cawse, regarding providing a statistical analysis application using a client/server/browser architecture that utilizes HTML documents to provide an analytical application, to include the steps of measuring the effect of running a simulation to determine how changes to a process mean and user specified targets would be affected, because Cawse teaches that these measures are a way to determine process variability so that measuring the effect a simulation has on changing the process mean and target limits from one process state to another provides for a way to analyze and remove variability from a business process, thus reducing defects and improving customer satisfaction.

Regarding **Claim 7,** Cognos teaches:

**d) in response to a user request, determining a trend of a parameter over time; and**

page 6 column 2 para 1, business analysis that provides for trend analysis (i.e. answering the question "which customers in the western sales region have increased their purchases by 30 percent in the past three years" is a trend) using queries that utilize time (i.e. a data set referenced on time is a trend, since it shows how the data will change over time). Cognos teaches that this capability is provided, i.e. providing a trend of a parameter over time, i.e. historical data in trends, see page 13 column 2 para 2.

**e) electronically transferring a display of said trend**.

Page 13 column 2 para 2, since users can see how the data is changing over time, then the data is being electronically transferred to them to display the trend.

Cognos teaches that users want to see how data changes over time, since it provides for a key ability to manage the business by understanding causation (see page 3 column 2 para 6, if the inventory turnover rate suddenly dropped "you would want to know why").

Cognos notes that the data warehouse can be run over an internet/extranet/Internet as discussed above with a client/server/browser approach,

however, Cognos does not teach where the **statistical parameters** are trended and does not teach conveying information using **a Hyper-Text Markup Language document,** however Official Notice is taken that using a website that utilizes electronic documents (i.e. html pages) to provide client/server/browser applications such as taught by Cognos is old and well known in the art. Using a website that utilizes electronic documents (e.g. html pages) provides a convenient and easy to use way to access information over a network.

It would have therefore been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Cognos, regarding providing a data warehousing application running over a network (i.e. intranet/extranet/internet), to include the step of accessing the data warehousing application at a website that provides the application using an electronic document, because it would provide a convenient and easy to use way to access the client/server/browser application taught by Cognos.

Cognos does not teach where the trend of a parameter is statistical in nature. However, performing statistical analysis based on process data that is business oriented is taught by **Cawse**.

Cawse teachings performing a statistical analysis method using a web-based computer system (see column 9 line 9-12).

Cawse teaches that tracking a trend of a process, as measured by a process capability was necessary to ensure the best possible output (Note Figure 13 "day to day drift", i.e. measuring a trend revealed a loss in statistical capability (column 7 line 50-55).

It would have been obvious to one of ordinary skill in the art to modify the teachings of Cognos, regarding providing for the capability of users to track and display a trend, to include the step of tracking and displaying a statistical parameter trend, as taught by Cawse, because it would help in process improvement through identifying trends that indicate an out of control process.

Regarding **Claim 8**, Cognos and Cawse teach the trend displaying a statistical parameter, as discussed above.

Cognos does not teach:

**wherein said statistical parameter is a sigma value**.

Cawse teaches:

**wherein said statistical parameter is a sigma value**.

the sigma value is a statistical parameter that is a measure of process capability (column 1 line 50-55). Cawse further teaches that when the sigma value goes up (i.e.

higher process capability) the customer satisfaction also goes up since the sigma value is reflective of the number of defects.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Cognos, regarding providing for trending of parameters that are important to the business, as taught by Cognos, to include the step of trending the sigma value as a statistical parameter, as taught by Cawse, because it would provide a way ensure customer satisfaction by tracking how well the process is producing defect-free products.

**Claim 11** addresses limitations addressed by the rejections of **Claims 1-8** above, except for where the database comprises business data – Cognos teaches a database comprising business data (see page 2 column 2 para 4 under "Enterprise Data Warehouses – the 'Big Bang' approach"). Cognos further teaches where the performance measure is user-selected (see page 6 column 2 para 1; page 7 column 2 para 2).

Regarding **Claim 12,** Cognos and Cawse teach the limitations above, including providing a simulation electronically to a user. Cognos teaches using a client/server/browser approach in providing information to a user.

Cognos and Cawse do not teach providing information using an HTML document to a user.

However Official Notice is taken that it is old and well known in the art to provide HTML documents using the client/server/browser architecture taught by Cognos, because HTML is a proven and reliable way to provide electronic documents over the types of networks (intranet/extranet/Internet) taught by Cognos.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Cognos and Cawse, regarding providing simulation display results using a client/server/browser architecture, to include the step of providing the application using an HTML document with the client/server/browser architecture, because it would provide a proven and reliable way to transmit information and requests over a network.

**Claim 14** recites limitations already addressed by the rejection of **Claim 4** above; therefore, the same rejection applies.

Regarding **Claim 15**, Cognos and Cawse teaches the limitations above in **Claim 1**, and Cognos teaches providing selectable data fields to the user for the user to select a plurality of dimensions (page 11 column 1 para 3, data fields are selectable for various queries of the data in the database to provide analysis based on the data that is

selected). Cognos further teaches where the performance measure is user-selected (see page 6 column 2 para 1; page 7 column 2 para 2).

Regarding **Claim 16**, Cognos teaches:

**d) collecting said data from a plurality of databases; and**

Page 1 column 2 para 4, the data for Cognos' Integrated Data Warehouse comes from ERP systems, front office (i.e. sales) and e-business sources (i.e. databases since these systems are known to utilize databases for storing transactional data). – note the examples given in page 7 column 1 para 2, data is being extracted from different databases, e.g. SAP R/3, Oracle and JD Edwards are all ERP systems that utilize databases for storing ERP transactional data.

**e) formatting said data in a single format, wherein data from multiple formats is converted to a single format and stored on a single database,**

Page 12 column 2 para 2, the ETL (extract, transform, load) process formats data to a single format (since the data is coming from different sources and is 'integrated').

page 6 column 1 para 4, data is being extracted to a single database.

**and wherein said peripheral computer system does not have direct access to said databases**.

page 2 column 2 para 3, Cognos teaches placing the extract in a separate database (i.e. a datamart) to prevent a large number of queries to the source (i.e. the

ERP system) from crashing the system and preventing it from performing key functions. This also makes the ERP system secure (i.e. "secure broad access").

Regarding **Claim 17**, Cognos and Cawse teaches the limitations above in Claim 1 and Cognos teaches where the analysis is **available to multiple distributed peripheral computer systems.**

page 17 column 2 para 2, Users using a web browser (i.e. a client/server/browser system) that are remote can access the analyses provide by Cognos' e-applications.

Regarding **Claim 18**, Cognos does not teach:

**formatting said statistical analysis in graphical format, wherein the variance of said data set is graphically viewable**.

Cawse teaches:

**formatting said statistical analysis in graphical format, wherein the variance of said data set is graphically viewable.**

As noted above, the histogram shown by Cawse is a format of a statistical analysis that is in graphical format – since the histogram referenced by Cawse is a representation of a statistical PDF function, this makes the variance of the data set graphically viewable (i.e. the variance is shown as a normally distributed 'bell curve').

Cawse notes that his approach (i.e. various DFSS techniques provide for analyzing business performance) can be applied using a computer system with storage devices (column 8 line 55-60).

Although Cawse demonstrates the invention in the context of a chemical process, it is noted (column 1 line 50-53, column 2 line 15-17) that the six sigma techniques are applicable to business processes as well.

Cawse and Cognos both address applying data analysis tools to understand information that is contained in stored data so that the business management can be improved, thus both Cawse and Cognos are analogous art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Cognos, regarding providing a data warehouse that provides for user-specified analysis of business data, to include the step of where the analysis includes a statistical analysis, because the analysis of statistical variation as taught by Cawse, provides for better control and a subsequent improvement to remove defects and cost.

Regarding **Claim 19**, Cognos does not teach:

**the step of highlighting data points which are outside of a target range, wherein the relative number of defective data are viewable**.

Cawse teaches:

**the step of highlighting data points which are outside of a target range, wherein the relative number of defective data are viewable**.

Figure 14, upper left hand chart – the use of PPM>USL and PPM<LSL provide for highlighting data points (since PPM – parts defective per million) where this highlighting provides a view of the relative number of defects, since PPM provides a relative defect measure. The use of LSL (lower service limit) and USL (upper service limit) provide bounds for a target range.

Cawse notes that his approach (i.e. various DFSS techniques provide for analyzing business performance) can be applied using a computer system with storage devices (column 8 line 55-60).

Although Cawse demonstrates the invention in the context of a chemical process, it is noted (column 1 line 50-53, column 2 line 15-17) that the six sigma techniques are applicable to business processes as well. Cawse application of six sigma tools provide for analyzing variability, both graphically and numerically as shown by the charts of Figure 14, so that variation in processes can be reduced. The use of PPM techniques provides an indication of how many defects per million a process will produce. Cawse notes that the variation and relative number of defects indicated by the upper left hand chart of Figure 14 illustrate a process that has wide variability.(see

column 7 line 63-67). This analysis supported a rationale to improve the process, since the variation was shown to be outside the user specified target (i.e. the LSL).

Cawse and Cognos both address applying data analysis tools to understand information that is contained in stored data so that the business management can be improved, thus both Cawse and Cognos are analogous art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Cognos, regarding providing a data warehouse that provides for user-specified analysis of business data, to include the step of where the analysis includes highlighting the relative number of defective data, because it would lead to process improvements by showing where there is excessive variation in process capability.

**Claim 20** recites limitations already addressed by the rejection of **Claim 5** above; therefore, the same rejection applies.

23. **Claims 9, 10 and 13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Cognos in view of Cawse and further in view of U.S. Patent 6,853,920 Hsuing (hereinafter **Hsuing)**.

Regarding **Claim 9**, Cognos teaches adding data to a database for the purpose of using that data for analysis (page 6 column 1 para 2; column 2 para 3). Cognos teaches checking the data as it is added for errors (page 6 column 1 para 2). Cognos teaches trending business data as discussed above.

Cawse teaches the need the track the trend of data (column 7 line 50-55) because it shows that the process is drifting.

Cognos and Cawse do not teach:

**d) as new data is gathered, determining if a statistical parameter for said performance measure is outside a user specified target;**

**and e) automatically notifying said user if said step d) is true, wherein said notification comprises an electronically delivered message to a user specified node.**

Hsuing teaches:

**d) as new data is gathered, determining if a statistical parameter for said performance measure is outside a user specified target;**

column 16 line 5-10, data is gathered from a process as an ongoing approach to provide process control. – this data is compared against what statistical process parameters (see line 55-60) would predict for the process based on what the performance measure (i.e. the incoming data) is.

column 16 line 25-30, the determination is made by comparing new data against the output predicted by the model (i.e. a user specified target, the type of model used to predict is specified by the user and includes, line 20-21, where statistical parameters are being measured) to determine if the process statistical parameter is outside what the model would predict, e.g. line 43-44, the failure of a pump produces process data outside what a model would show the statistical process parameter to be.

**and e) automatically notifying said user if said step d) is true, wherein said notification comprises an electronically delivered message to a user specified node.**

column 16 line 40-45, a pager or voicemail (i.e. a user-specified node) is notified that a process parameter is out of control. Since pagers and voicemail are electronically operated, a message to these is an electronically delivered message.

Hsuing teaches that his method of process control can apply to data gathered from enterprise resource planning (ERP) systems (column 6 line 20-21). In column 3 line 55-60, Hsuing notes that any process can be monitored (see also column 1 line 43, data from commerce can be monitored and the underlying process controlled)

Hsuing notes that one benefit of using his invention is that since the data is being gathered and analyzed in real time (column 3 line 47-50), it provides immediate control over processes, since the analyzing function (i.e. the determining step regarding something being out of control) occurs in real time on the data.

Cognos, Cawse and Hsuing all address using process data to provide control and monitoring over processes so that process control is improved, thus Cognos, Cawse and Hsuing are all analogous art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the collective teachings of Cognos and Cawse, regarding providing a network based system to collect and statistically analyze business process data, to include the steps of determining and notifying when a process is out of control (i.e. a statistical parameter exceeds a user-specified target), because it would enable those responsible for monitoring a process to take quick action since the determining and notifying steps of Hsuing are performed in real time.

Regarding **Claim 10**, Cognos teaches

**analyzing said performance measure according to a periodic rate specified by said user.**

page 8 column 1 para 1-2, financial analysis e-applications provide for an analysis of a business performance measure (i.e. period end closings provide balance sheet closings) that occur according to a periodic rate (i.e. at the end of a period, para 3, a balance sheet and income statements). Note page 7 para 2, the data to be extracted for these e-applications is defined on the date (i.e. a periodic rate specified) that is defined by the user.

**Claim 13** recites limitations already addressed by the rejection of **Claim 9** above; therefore, the same rejection applies.

***Conclusion***

24. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan G. Sterrett whose telephone number is 571-272-6881. The examiner can normally be reached on 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on 571-272-6729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JGS 12-26-07

ROMAIN JEANTY
PRIMARY EXAMINER